

RECENTLY PATENTED INVENTIONS. Engineering.

STEAM ENGINE.—Elijah H. Allred, Randleman, S. C. The cylinder of this engine is supported upon an upright centrally located on a base plate near one end of which is an upright forming a pivotal point for one end of a toggle arm, while at the other end is an upright supporting a pulley and a crank from which extends inwardly another toggle arm, the inner ends of both being connected in the central upright, where they are also connected with the piston rod, the reciprocation of which operates the toggle arms to revolve the crank and driving pulley. Rods connected with the toggle arms actuate the steam and exhaust valves.

STEAM ACTUATED VALVE.—Ernest A. Menking, Pittsburg, Pa. This is a valve of simple and durable construction, designed to prevent undue wear, the main piston valve being completely balanced, so that it requires but a small amount of live steam to actuate the valve. In the cylindrical steam chest slides a main piston valve formed with four pistons in frictional contact with the interior surface of the chest, making four annular spaces in the main piston, the inlet port at all times communicating with two of the spaces, while an exhaust port is at all times in communication with one of the spaces. The valve presents various novel features, and the friction is reduced to a minimum.

LUBRICATOR.—Miles W. White, Brooklyn, N. Y. This is a simple and inexpensive device for feeding oil to high or low pressure steam engines, affording convenient and reliable means for the graduated periodical introduction of lubricating liquid into the steam chest. An oil-feeding cup taps the side of a chamber perforated at its base to receive steam pressure, while a slide block in the chamber is grooved to receive an increment of oil from the cup when in lowered adjustment, and discharge the oil under steam pressure through an aligned passage when the slide block is elevated.

Railway Appliances.

RAIL PUNCH.—Elijah B. Cornell, Philadelphia, Pa. This is a hand implement for punching the webs of rails, etc., and consists of a U-shaped frame having pivoted in the lower ends of its depending arms a transverse screw carrying a female die and a transverse slide carrying a male die, a vertical shaft extending down through the frame being connected at its lower end with the slide to operate it, while transverse and vertical screws engage the upper edge and opposite sides of the rail or bar to be punched. The entire device is very light, so that it may be conveniently carried by a workman, and by the movement of a single lever or its equivalent a hole may be made in the web.

TRAIN TABLE.—Andrew J. Culbertson, San Andreas, Cal. This is an apparatus to facilitate the making up of trains in a train yard. The main track is intersected by a transverse pit in which are mounted independent transversely reciprocating parallel tables, each having a series of tracks parallel with the main track, and adapted to align with it, and each of a length to receive a single car, whereby a whole train may be made up by a single shifting of the respective tables. Each table has a piston and cylinder, the latter connected with a fluid pressure supply pipe, whereby power may be readily applied to slide the table in either direction.

AUXILIARY CAR MOTOR.—William H. Schollhoff, Chester, Pa. This is a spring motor to be connected with any car axle, and especially adapted for use on cable cars, to enable the cars to cross another cableway or to change from one cable to another, or to a side track, or it may be used on electric cars where the circuit is broken. The spring is wound up by the movement of the car, and automatic means are provided for throwing it out of gear with the axle when fully wound up. Provision is also made for the prevention of any breakage on account of the negligence of gripman or cableman. The spring is designed to be strong enough to move the car some little distance, and obviate the necessity of employing horses for making such transfers as animal power is sometimes employed for on cable or electric roads.

Mechanical.

BOILER FLUE EXPANDER.—Leopold Biddle, Raton, New Mexico. This is a roller expander in which the roller casing is formed with an apertured end and provided with longitudinal slots to receive the rollers, an apertured cap screwing in the head of the casing abutting against the ends of the rollers to hold them in place within the casing and to take up the strain. The device is of simple and durable construction and is arranged to reduce the wear and tear of the tool to a minimum.

MACHINE FOR FORMING ORNAMENTS.—Louis A. Eucker, Hoboken, N. J. This machine is designed primarily to mould ornaments from glass or other substance, either pliable when cold or when heated, and secure to the ornaments at the time they are formed a shank of wire or other material, cutting the shank to the proper length. Combined with dies, one of which is movable toward and from the other, is a clamp for holding the wire carrying the material to be acted upon by the dies, and means for operating the clamp from the movable die. The machine is designed to make cleaner and quicker work than heretofore possible, as the dies or moulds are nearer the fire and well above and at one side of the table of the machine, enabling the operator at all times to conveniently note the progress of the work.

Agricultural.

PLOW.—John T. Lucas, Centerville, Washington. This is a gang or cultivator plow, the frame of which is of strong and simple construction, and permits of the shares being quickly and conveniently attached and readily reversed. Means are provided for regulating the depth that the shares shall enter the ground, and the rear or guard wheel may be locked to

travel in a straight line only, or be unlocked so that it will have a swivel connection with the frame, thus enabling the implement to be turned around square corners or squarely around. The shares may be readily elevated from the ground when the plow is to be taken away from the field.

CORN HUSKING MACHINE.—Augustus Smith, Scotland, South Dakota. A machine which snaps the corn from the stalk and then rapidly and effectively husks it has been devised by this inventor. A gatherer and separator mechanism is supported at the front end of a main frame carried on wheels, there being husking devices at the rear end of the frame, and the two being connected by an elevator which carries the separated corn ears to the husker. The husking mechanism comprises an open bottom trough-like chamber with side walls formed of corrugated rollers arranged longitudinally and in a plane parallel to the feed. The husked ears are discharged into a box on the under side of the husker.

Miscellaneous.

DUMPING BUCKET.—James A. Quinn, Brooklyn, N. Y. The scoop sections of this bucket are united by a pivot bolt surrounded by rings connected with the sections by chains of a length calculated to maintain the rings out of engagement with the bolt when upward tension is exerted, so that when the bucket is elevated no strain is brought upon the pivot bolt, and the sections may be opened and closed with equal facility under all conditions.

DUSTING APPARATUS.—Lewis F. Neal, Waltham, Mass. A revolvable brush is held in a casing attached to a hose connected with an exhaust apparatus, the casing containing also a wind or fan wheel operating the brush by the air drawn through to the exhaust apparatus. The device is designed to stir up dust or other matter and draw it away by suction, and it may also be used for brushing furs, fabrics, and the like, or for removing dandruff from the head, etc.

PIPE FITTING.—John McIntyre, Jersey City, N. J. A coupling has a threaded connection with a follower provided with a second thread adapted to be engaged by the pipe to be coupled, while a packing ring having an interior and exterior screw thread is arranged between the coupling and follower, so that the latter on being screwed up compresses the packing ring on the coupling and the pipe to be coupled. The packing ring is compressible, and has screw threads engaging simultaneously the screw threads on the follower or the coupling and that of the pipe.

EXTENSION TABLE.—Achilles R. Stebbins, Watertown, Pa. A substantial and durable table which may be made into a variety of sizes and shapes to fit in any desired part of a room, or to conform in size and shape to the necessities of a family, has been provided by this inventor. It has extensible wings at right angles to each other, folding supports extending from the outer end of one wing to the outer end of the other, the supports folding in the middle and having a central leg, and the supports carrying supplemental leaves between the wings. The invention also covers various other novel features.

STEP LADDER AND BENCH.—Ensign B. Stebbins, Lake View, Mich. This is a combination household article, the bench being adapted to support wash tubs and other articles, while the step ladder formed is very solid and stable, the change being readily and conveniently made from one to the other.

PENCIL.—John J. Gillespie, Colorado Springs, Colorado. This is an improvement in pencils in which the lead may be adjusted as it is worn down, and will not have to be sharpened. The improved pencil has a bored body with a longitudinal slot, and a slide or sleeve within the bore having a laterally projecting clamp to engage the interior of the body and prevent retraction, with an extension through the slot for moving the slide toward the point of the pencil.

BOTTLE CORKING TOOL.—Karl Kirschner, Jr., Radlic, near Prague, Austria-Hungary. This inventor has provided a tool for lead stamping or sealing bottle corks, provided with punching surfaces adapted to impress marks on the ends of a lead wire, with a gauge plate on one side against which one end of the lead wire abuts and a knife on the opposite side which cuts off a suitable length of the wire. A lead stamp or steel may thus be affixed which will surely indicate when the bottle has been opened.

LACE FASTENER.—Alexander Klinger, Telluride, Col. This invention relates to fasteners for shoes, gloves, corsets, bags, etc., in which two disks or buttons lying near each other serve to hold by friction the fastening end of the lace. The device is mainly made up of upper or outer and lower or inner buttons corrugated on their approximate faces, a central square or angular post between them, and crossing bar springs on the under or back side of the device, applied to the post.

CABLE PROTECTOR.—Albert W. Lackey, Gold Hill, Nevada. Metallic cables used in mines for raising buckets, propelling cars, etc., are, according to this invention, afforded a protection for their surfaces consisting of a staple whose two prongs are to be driven into the cable, and having a large concave head adapted to fit snugly on a strand of the cable. A series of these staples is driven into the cable, and their heads prevent the rubbing of the cable itself on the flanges of the pulleys or drums over which the cable passes.

PRESERVING FRUITS, ETC.—Milledge B. Wever, San Antonio, Fla. The preserving of citrus fruits, such as oranges, lemons, limes, and grape fruit, and also fruit and vegetables containing a trace of silica, as the apple, cucumber, egg plant, etc., are especially contemplated by this improved method, which provides a means by which they may be kept perfectly fresh for a long time, as to taste, smell, and color. The method consists in packing the fruit in an air-tight box between layers of oiled cotton batting, and covering the contents of the box with a sheet of rubber. The box should have an orifice in one side to allow of escape of moisture after packing, after which the opening may be closed by wax or a suitable seal.

FAN ATTACHMENT.—George W. Grimes, Murrecesborough, N. C. This improvement provides a means of operating a fan by a rocking chair, to fan a person in the chair or one lying in a bed. The fan is suspended by means of a hanger from a bracket secured to the ceiling, and the fan is connected by a cord with a spring bar on the back of the chair, the rocking of the chair then vibrating the fan back and forth. The hanger can be placed at any desired location, and may be readily adjusted as to height.

BICYCLE SADDLE.—Edward S. Cross, Elyria, Ohio. This is a simple and inexpensive saddle in which the spring is formed of a forward and rearward section, arranged to overlap, and held to adjusted positions by a single clip device, which is also adapted to be attached to the seat bar. The arrangement is such that the forward spring reinforces the rear spring against any unusual strain.

CLOTHES POUNDER.—George W. Ainsworth, Montpelier, Vt. This pounder has on the lower end of its handle an outer inverted funnel, within which is an inner funnel or convex disk, the funnel and disk each having numerous perforations, and both being connected by the handle. The arrangement of the funnels is designed to facilitate the quick cleansing of the clothes by the pounder, without danger of tearing them.

SHAFT TUG.—William F. Sweet, Webb's Mills, N. Y. This tug is so made that its inner or wearing surface may be readily changed in position, presenting fresh portions of the leather to the friction of the shafts or thills. The tug strap is adjustable in length to adapt it for any size of thill, and by means of the improvement a much longer use than usual of the tug strap is attained, the surfaces becoming worn being moved out of contact with the shaft.

BED SLAT SUPPORT.—George Luppert, Williamsport, Pa. A slat-supporting bar on the side rail is, by this improvement, held in a series of spring supports, each formed of a stout wire bent to form a wide ball with a spring coil in each vertical portion, and a hook at the upper end to enter the rail. With this support the slats can be quickly placed in position, their accidental displacement is a most entirely avoided, and the resilient properties of the springs are uniformly distributed over the entire bottom.

AXLE NUT.—Joseph Bernel, Middle Village, N. Y. This invention relates to an improvement on a formerly patented invention of the same inventor, providing a nut which may be quick and conveniently locked upon the axle without the locking mechanism being seen. The interlocking portions of the axle and the nut are so shaped that the two may be quickly engaged and disengaged, and when brought into locking position they cannot be accidentally separated.

BATH.—George Elliott, New York City. This is an improvement in portable cabinet baths in which a pump is located in a water-holding receptacle at the bottom, and operated by the occupant of the bath to force water into spray pipes in its upper portion. The casing is preferably made in two sections united by water-tight connections, and by working the pump lever the water is forced into a dome, flowing from thence to various pipes which afford top and cross sprays, as well as through two flexible spray pipes for use as desired.

PORTABLE FENCE.—Henry Knee, Kent, Pa. This is a portable and reversible fence, with batten strips and cross bars, and swiveling eye bolts connecting the horizontal bars to the end posts pivotally, to permit of reversal and adaptation to a hill side. The hooks connect the swiveling eye bolts on the outside of the bend in the fence, and the locking bars are arranged on the inside. The fence panels may be turned upside down and adjusted with equal facility in either way to form a strong and substantial fence.

FENCE POST.—William H. Hunt and Charles O. Morris, Trenton, N. J. This post is made of T-iron, with its shank member having a series of recesses in its outer edge, each recess having an upper curved channel extending downwardly and inwardly, a lower curved section meeting the channel and extending diagonally beneath it, while spurs are formed in the channels. The post is especially adapted for use as an intermediate post in building wire fences, and is very light and durable, and may be readily driven into the ground.

PETROLEUM CASK.—John D. Sprunt, London, England. This is a non-collapseable receptacle, consisting of a rigid frame of wood or other light material, with a flexible side of parchment or glued paper that will yield to the contraction and expansion of the contents of the vessel, the surfaces being coated with glue to close the joints and render the material impervious. There is an aperture for filling and discharging in combination with a collapseable funnel. The receptacle is especially suited for liquids of a penetrating nature.

Designs.

EMBROIDERY FABRIC.—Julius Frelloehr, New York City. Braids or strips form the background of this design, and they are ornamented on top with a raised network of individual threads in zig-zag line, the crossing angles forming small figures.

SPOON.—Charles Otero, Pueblo, Col. The handle of this spoon represents a hammer around which is draped a flag, the end having a medallion female portrait on one side and on the other a mountain view, while in the bowl is a representation of the Colorado mineral palace casket.

SPOON.—Charles Barclay, Lead, South Dakota. The handle of this spoon has on its outer end a marine view, with a sailing vessel and rising sun, while in the foreground is the figure of an Indian as if watching the vessel.

COVERED DISH.—Robert L. Johnson, Hanley, England. This dish is elongated and has a flattened base, and at its ends are outwardly curved handles ornamented with leaf-like scrolls, the cover fitting between the handles and its edges overhanging the

sides of the dish. The edges and knob of the cover have scroll-like ornaments.

SHOW STAND.—Alben L. Yearens, Eagle Grove, Iowa. Upon a suitable base is a post having marked divisions of decreasing size separated by cylindrical portions from which radiate arms, each arm carrying a series of pendent hook-like figures.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

COMMON SENSE HEALTH NOTES. By A. R. Horne, D.D. Chicago: A. Flanagan. 1893. 12mo. Pp. v, 305.

Contains many useful suggestions for realizing and then maintaining good health.

NAPOLÉON: A DRAMA. By Richmond Sheffield Dement. Chicago: Knight, Leonard & Co.

The author has sought here to portray some of the leading spectacles of Napoleon's life in a form suitable for scenic representation and acting on the stage. A work so ambitious would be really a very great accomplishment, if successfully carried out, but its success on the stage is yet to be achieved.

The Peter Adams Company, of New York City, manufacturers of American art papers, have just issued a beautiful volume of specimens of their different kinds of paper, with artistic printing of various classes on the special kinds and qualities of paper made for each class of work. Printers and publishers getting out fine work will do well to examine these specimens.

"The Book of the Fair," of which Part I. has just been published by the Bancroft Company, of Chicago and San Francisco, promises to be one of the richest and completest of the many more or less elaborate publications projected in this field. It is a large quarto, on heavy calendered paper, of a quality well adapted to bring out the details of the many half-tone and other engravings with which its pages are richly embellished, and the text is in fine, large, beautiful print, with generous margins. It is designed to be "in the strictest sense a work of art, as well as of material and moral instruction," and the reputation of its author, Mr. Hubert Howe Bancroft, affords a good guaranty that it will well come up to such promise. The parts are furnished at one dollar each.

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1. Elegant plate in colors, showing the handsome residence of S. E. Walton, Esq., at Springfield, Mass., at a cost of \$10,000 complete. Floor plans and perspective elevations. A pleasing design.
2. Plate in colors showing the residence of Wm. H. Fitzgerald at Bridgeport, Conn., erected at a cost of \$6,000 complete. Two perspective views and floor plans. J. W. Northrop, Esq., architect, Bridgeport, Conn. An attractive design.
3. A dwelling recently erected at Chester Hill, N. Y. Perspective view and floor plans. A model design. Cost \$6,850 complete. Messrs. Munn & Co., New York City.
4. A Colonial modern dwelling recently erected at Montclair, N. J., at a cost of \$5,500 complete. Floor plans, two perspective views, etc. Messrs. Munn & Co., architects, New York. An excellent design.
5. Engraving and floor plans of two designs of cottages recently erected for Mr. D. H. McKay, at Boston, Mass., at a cost of about \$1,000. A. W. Pease, architect, Boston, Mass.
6. Floor plans and engravings of a stone residence erected for George W. Childs, Esq., at St. David, Pa. A very attractive design. Cost \$7,000 complete. Messrs. F. L. & W. L. Price, architects, Philadelphia, Pa.
7. An old colonial style dwelling at Belle Haven, Conn. Floor plans and perspective elevations. A picturesque design.
8. A residence at Belle Haven, Conn. A unique design. Perspective elevation and floor plans. Messrs. Boring, Tilton & Mellin, architects, New York City.
9. Bird's-eye view of the World's Columbian Exposition—looking West.
10. The Fifth Avenue Theater, New York.—View showing the orchestra chairs and seating arrangement. Mr. Francis H. Kimball, architect, New York.
11. Miscellaneous contents: A change in name.—A tufted metal ceiling, illustrated.—Hanson's automatic boiler feed, illustrated.—Simple means of raising water to house tanks, illustrated.—Copper statue, "Flying Dutchman," at the Columbian Exposition, illustrated.—Naphthalene as a timber preservative.—Ornamental parquetry floors and borders, illustrated.—An improved wood working machine, illustrated.

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